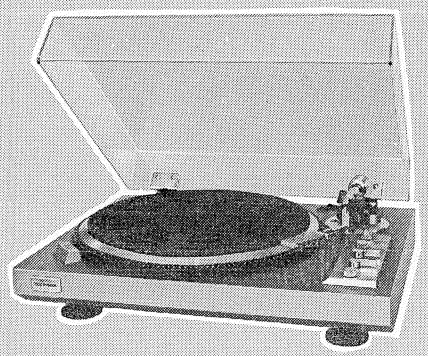
TOSHIBA

STEREO TURNTABLE

SR-F770



SPECIFICATIONS			
Drive system:	Direct drive	Signal to niose artio:	70 dB (DIN 45539B)
Drive motor:	DC servo controlled (20-polar, 30-slot)	Wow & flutter:	0.028% W.R.M.S.
Speeds:	33-1/3 and 45 rpm	Power supply:	AC 120V 60 Hz
Speed control range:	±2% (for both speeds)	Power Consumption:	4W
Platter:	33 cm aluminum diecast platter equipped with stroboscope	Dimensions:	448(W) x 352(D) x 150(H) mm
Tonearm:	Static-balanced S-shaped pipe Effective length..... 224 mm Overhang ..... 16 mm Tracking error..... +2° ~ -2° Direct-reading tracking force scale Detachable head shell Pressure-response type anti-skating mechanism Range of cartridge weight for replacement cartridges 14 ~ 20g (including head shell and screw) Optimum tracking force 2.0±0.5g	Weight:	7.5 Kg
		Accessory functions:	Auto-start, auto-cut, auto-return, auto-repeat, manual operation, cueing mechanism, detachable free-stop type dust cover

Specifications are subject to change without notice.

TA, TC

1. OPERATING INSTRUCTIONS

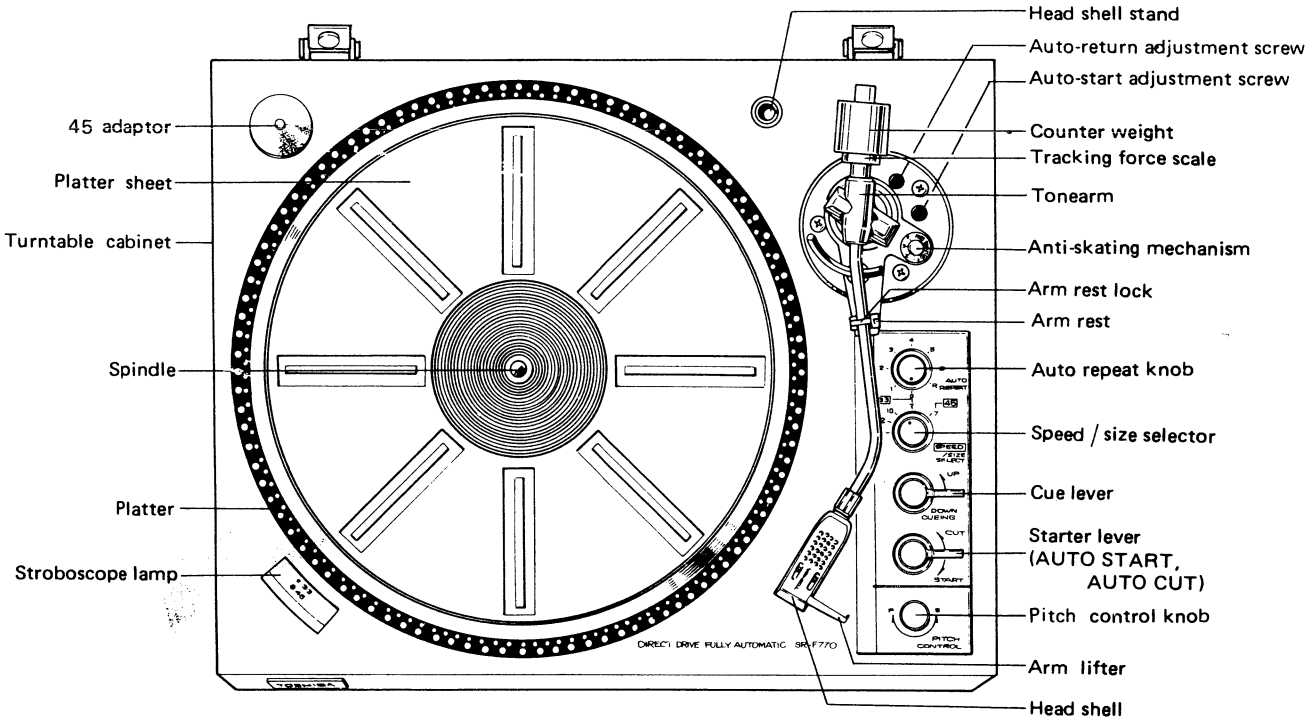


Figure 1.

2. TROUBLE SHOOTING (MOTOR P.C. BOARD)

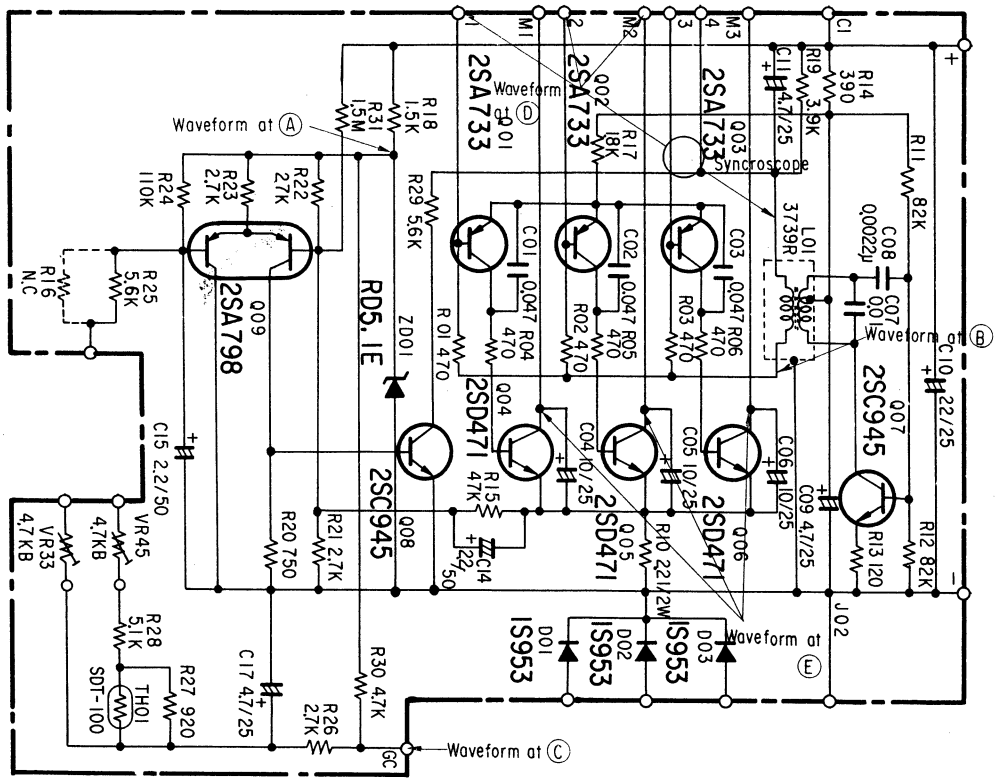


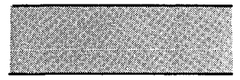
Figure 2.

SWITCH ON

- Abnormal revolution
  - Check if voltage at Ⓐ is 5.1V
    - Yes
      - D. P.
        - Burn-out of sensor winding (refer to waveform at Ⓓ)
        - Failure of transistor Q01, Q02, Q03, Q04, Q05 and Q06 (refer to waveform at Ⓔ)
        - Burn-out of driving winding and failure of soldering (refer to waveform at Ⓔ)
      - Slow revolution — failure of speed VR.
      - Fast revolution
        - Burn-out of genertor winding and failure of soldering (refer to waveform at Ⓒ)
        - Rare short-circuit of generator winding (refer to waveform at Ⓒ)
        - Failure of rectifing diode D01, D02 and D03 (refer to waveform at Ⓒ)
        - Malfunction of speed VR
    - No
      - Failure of Zener Diode RD01
      - Failure of soldering
- No revolution
  - Check if voltage at circuit power terminal is 18V
    - Yes
      - Check if voltage at Ⓐ is 5.1V
        - Yes
          - Check if oscillator operates normally
            - Yes
              - Approx. 2.0 mA is charged to motor
                - Failure of transistor Q08 and Q09
                - Failure of soldering of COM wire of driving winding
              - Approx. 350 mA is charged to motor
                - Burn-out of sensor and failure of soldering
                - Failure of transistor Q01, Q02, Q03, Q04, Q05 and Q06
                - Burn-out of driving winding and failure of soldering
            - No
              - Oscillator coil L01
              - Mylar capacitor C07 and C08
              - Transistor Q07
              - Disorder of D and failure of soldering (refer to waveform at Ⓒ)
        - No
          - Failure of Zener diode D01 and of soldering
    - No
      - Rare short-circuit of driving winding (voltage drop due to overcurrent)
      - Disorder of power sorce
      - Break of pattern on soldering of lapping pin

Waveforms shown below are observed by syncroscope on each point

Waveform at Ⓑ



(Normal waveform)

Waveform at Ⓒ (generating waveform after rectifing)

300 mV (Normal waveform)

(Failure of rectifing diode of one phase disconnection)

(Failure of soldering of generator winding

(Abnormality of control circuit)

Waveform at Ⓓ
(Waveform between emitter and collector of switching transistor)

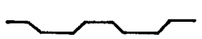
1.5V (Normal waveform)

(Burn-out of sensor winding and failure of soldering)

Waveform at Ⓔ

17V (Normal waveform)

(Failure of driving winding or power transistor)



(Failure of power transistor)

3. DISASSEMBLY PROCEDURE

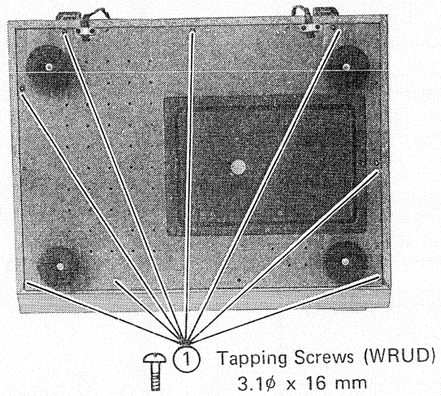


Figure 3.

4. ADJUSTMENTS

ADJUSTMENT OF SEMI-FIXED RESISTOR (VR33 and VR45)

1. Adjust pitch control knob to mechanical center.
2. Adjust the semi-fixed resistor (VR33 or VR45) so that the strobscope stops.

ADJUSTMENT OF OSCILLATOR COIL (L01)

1. Connect syncroscope to Ⓒ of sohematic diagram (refer to figure 2)
2. Adjust oscillator coil (L01) so that the waveform at Ⓒ is as figure below.

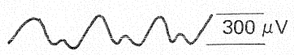


Figure 4.

OVERHANG ADJUSTMENT

When repalacing a cartridge, it will be necessary to adjust for overhang. As has been indicated in Fig. 5, the distance from the stylus tip to the point of connection to the tonearm is exactly 50mm. When mounting the new cartridge, this distance is adjusted by means of the screw which holds the cartridge in place in the head shell.

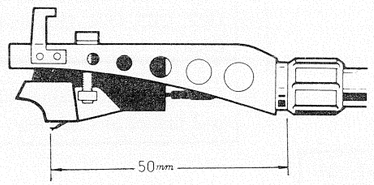


Figure 5.

TRACKING FORCE ADJUSTMENT

(Note: this adjustment is important)

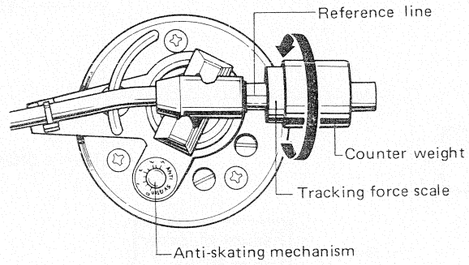


Figure 6.

If the turntable has already been connected to an amplifier, be sure to switch the amplifier's power supply off before commencing this adjustment.

(1) First remove the stylus cover.

(2) Check that the cue lever is in the "DOWN" position, and that the tonearm itself is free to move from the arm rest.

(3) Set the anti-skating mechanism to read "0".

(4) Now carefully screw the counter weight out backwards until the tonearm is perfectly balanced in a horizontal plane. Then keeping the counter weight still, turn the tracking force scale only to align the "0" with the reference line.

(5) Next turn the counter weight together with the tracking force scale so that the scale reading corresponds with the tracking force rating specified for your cartridge.

(6) Return the tonearm to the arm rest.

(7) Also adjust the anti-skating mechanism to the same value as the tracking force.

PLATTER SPEED ADJUSTMENT

Adjust the platter's rotational speeds to exactly 33 and 45 rpm by means of the speed control knob and the stroboscope. When the relevant stroboscope markings appear to be stationary, the platter will be rotating at the correct speed. The speed may be increased by turning the speed control knob in the F (faster) direction, and decreased by turning in the S (slower) direction.

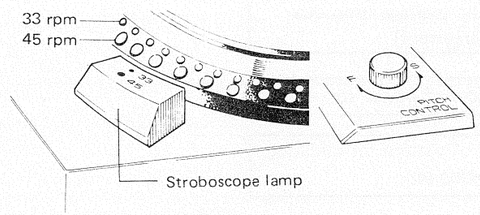


Figure 7.

AUTO-START POSITION ADJUSTMENT

The distance between stylus tip and record surface when the cue lever is in the "UP" position, is adjusted by means of the height adjustment screw on the tonearm pivot (this task will require a small screw driver).

- Turning in the clockwise direction will lower the stylus.
- Turning in the counter clockwise direction will raise the stylus.

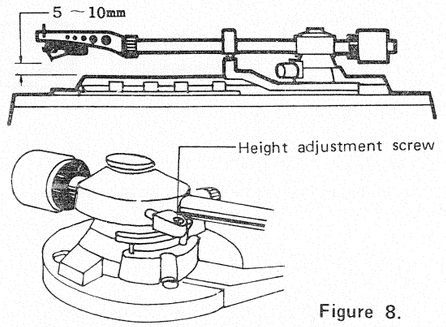


Figure 8.

STYLUS HEIGHT ADJUSTMENT

- When stylus lands too close to the outer edge of the record
  Turn the auto-start adjustment screw in the counter clockwise direction.
- When stylus lands inside the first track
  Turn the auto-start adjustment screw in the counter clockwise direction.

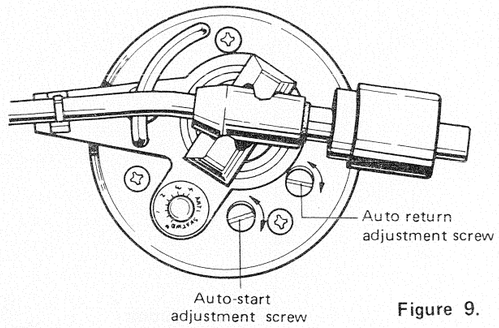


Figure 9.

AUTO-RETURN POSITION ADJUSTMENT

- When the tonearm returns to the arm rest before the end of the record
  Turn the auto return adjustment screw in the counter clockwise direction.
- When the tonearm fails to return to the arm rest after the stylus has entered the lead-out groove
  Turn the auto return adjustment screw in the clockwise direction.

5. WIRING

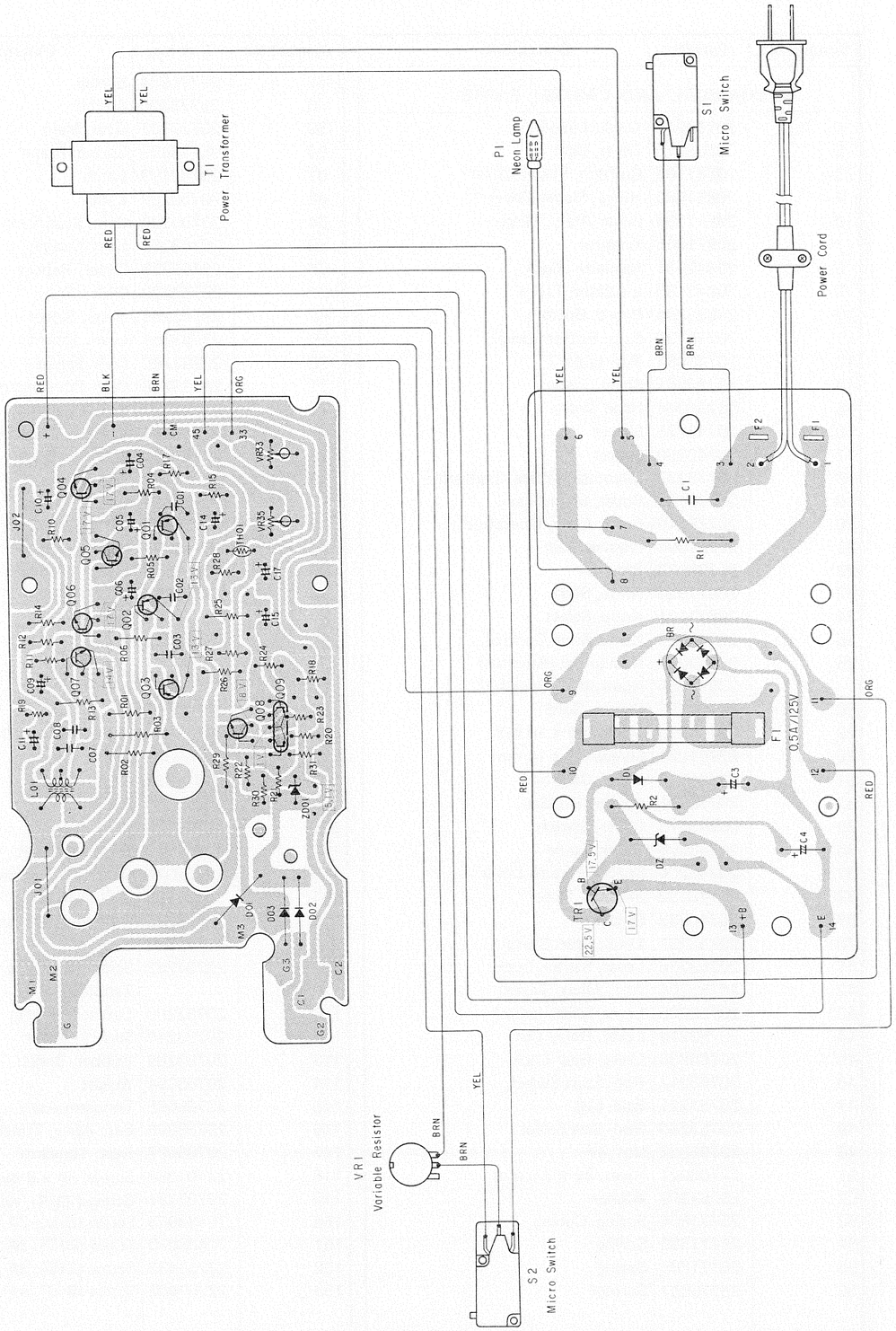


Figure 10.

6. SCHEMATIC DIAGRAM

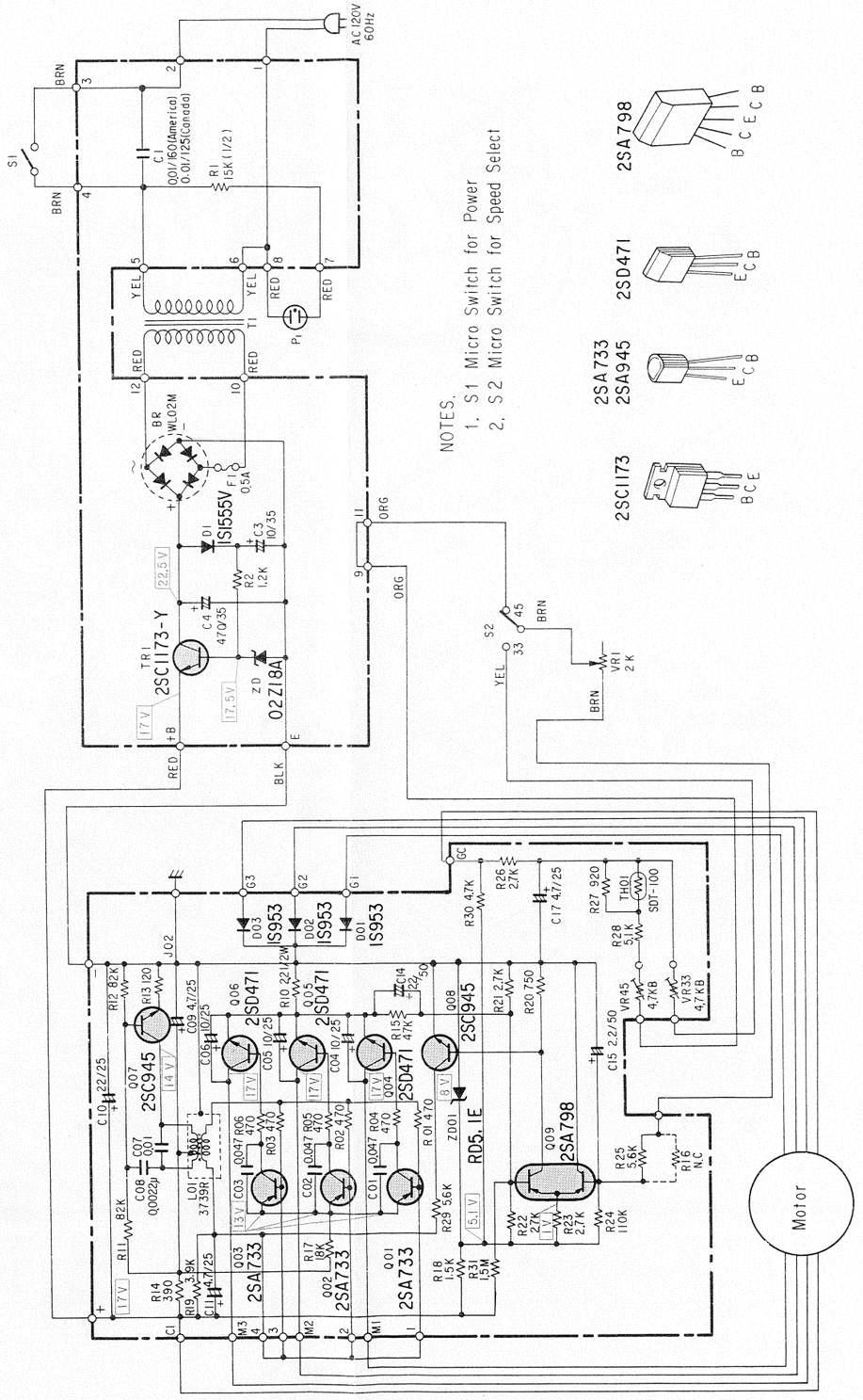


Figure 11.

7. MECHANICAL AND CABINET PARTS LOCATIONS

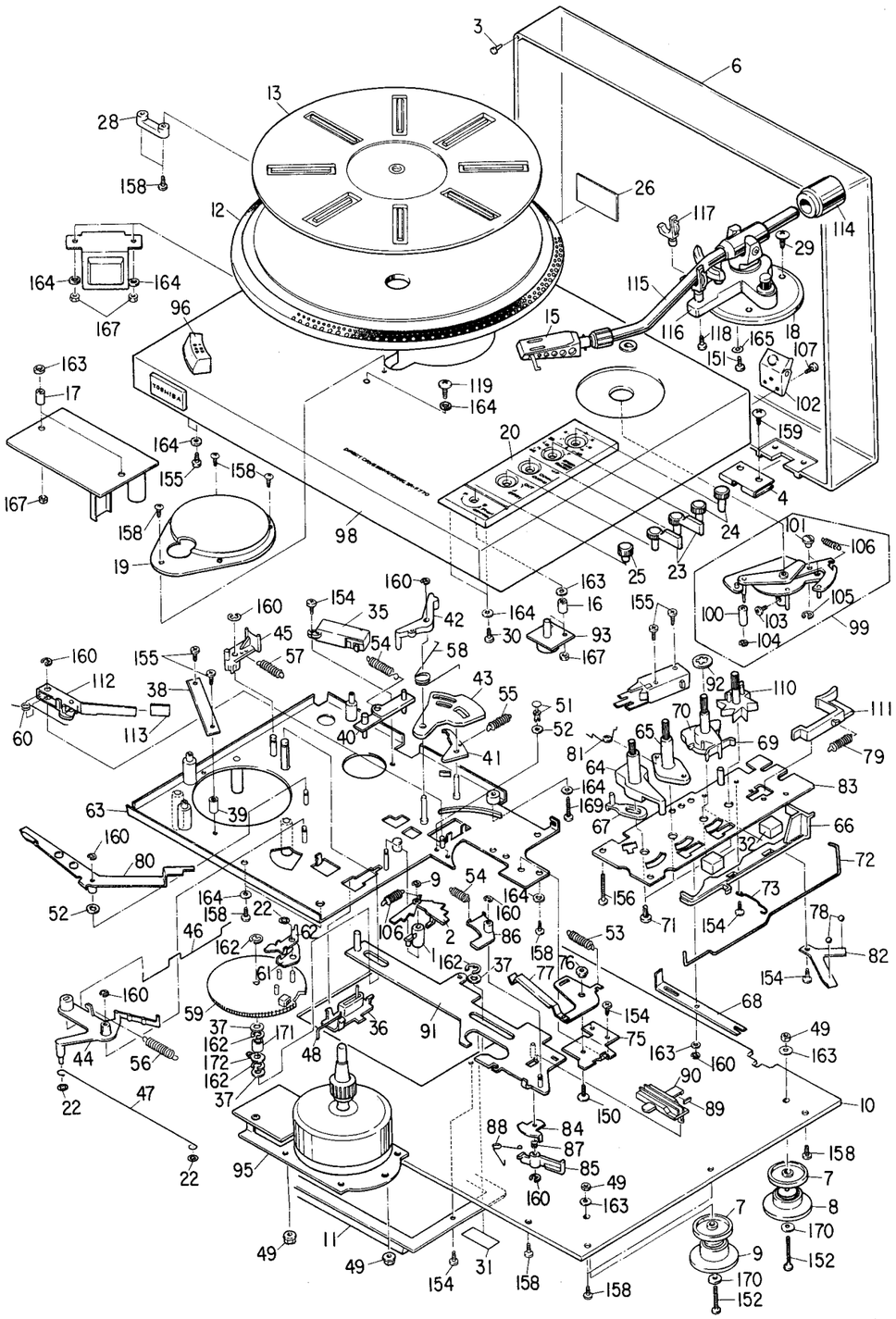


Figure 12.

NOTE: Parts excluded in the Parts List are not available as replacement parts.

8. PARTS LIST

Symbol No.	Part No.	Description
		MECHANICAL AND CABINET PARTS
1	20753216	Lever, Lead-in
2	20753215	Lever, Cam
3	20881160	Cushion, Player Cover
4	20861060	Hinge, Player Cover
6	20847138	Cover Ass'y, Player
7	20971046	Adaptor
8	20842131	Insulator, Back
9	20842130	Insulator, Front
10	20826204	Board, Bottom
11	20778136	Case, Bottom Board
12	20723059	Turntable
13	20723061	Sheet, Table
15	20736044	Head Sheel
16	20746225	Spacer
17	20746250	Spacer
18	20778132	Decoration Plate, Tonearm
19	20778138	Cover, Main Gear
20	20778140	Cover Ass'y, Operation
21	20791094	Washer, 3.3ø
22	20798033	Ring, 3ø
23	20871320	Knob, Start
24	20871321	Knob, Select
25	20871322	Knob, Pitch Control
26	20877264	Nameplate (America)
	20877265	Nameplate (Canada)
28	22184191	Clamp, Cord
29	22707305	Screw, 4ø x 10 mm
30	22707334	Screw, 3ø x 14 mm
31	22950592	Label, Caution
32	20776061	Spacer, Rubber
35	20743073	Cover, Switch
36	20743075	Blook Guide
37	20746204	Spacer, Return Lever
38	20746232	Stopper, Rotor
39	20746233	Spacer
40	20753201	Lever, Start Switch
41	20753266	Lever, Switch Lock
42	20753204	Arm, Micro Switch
43	20753205	Lever, Micro Switch
44	20753219	Lever, Relay Cut
45	20753236	Lever, Gear Lock
46	20763217	Rod, Start Switch
47	20763221	Rod, Cut
48	20763260	Rod, Size Select
49	20796032	Nut, 4ø
51	22705021	Rivet, 3ø x 3.5 mm
52	25764399	Washer
53	25771884	Spring, Cueing
54	25771885	Spring
55	25771886	Spring
56	25776007	Spring

Symbol No.	Part No.	Description
57	25771934	Spring
58	25773326	Spring
59	20727037	Gear, Main
60	25773409	Spring, Brake
61	20753199	Latch
62	20753200	Latch
64	20753224	Cam, Start/Stop
65	20753225	Cam, Cueing
66	20753226	Slider, Repeat
67	20753229	Slider, Stop
68	20753255	Lever, Select
69	20753261	Lever, Select
70	20753262	Cam, Select
71	20763218	Cam, Pin Control
72	20763220	Rod, Cueing
75	20746202	Bracket, Cue Lever
78	20773077	Ball, Steel, 1/8"
79	25771902	Spring
81	25773332	Spring, Cueing
82	25774514	Spring, Control
84	20746227	Plate, Friction
85	20753212	Lever, Lead-in
86	20753213	Lever, Repeat
87	25772456	Spring
88	25773325	Spring
89	20746203	Cushion
90	20753214	Lift Block
92	22706007	Ring, CS-8
95	22125329	Motor Ass'y, DD
96	20749084	Cover, Lamp
98	20811321	Cabinet Ass'y
100	20746213	Spacer
101	20757026	Cam, Adjust
102	20861081	Hinge, Cabinet
103	22707376	Screw, 3ø x 5 mm
104	25735159	E Washer, 1.5ø
105	25735222	E Washer, 4ø, Special
106	25771883	Spring
107	22707282	Screw (BID), 3ø x 10 mm, Tapping
110	20753209	Latchet, Repeat
111	20753210	Slider, Lead-in
113	20753269	Rubber, Brake
114	20788094	Weight
115	20788095	Tonearm Ass'y
116	20788096	Base Ass'y, Tonearm
117	20788097	Rest, Tonearm
118	22707388	Screw, 3ø x 8 mm, Tonearm Rest
119	22707381	Screw (TRS), 4ø x 10 mm
150	70433006	Screw (BID), 3ø x 6 mm
151	70433010	Screw (BID), 3ø x 10 mm
152	22701433	Screw (BID), 3ø x 25 mm
153	22707402	Screw (BID), 4ø x 10 mm

Symbol No.	Part No.	Description
154	71233008	Screw (BID), 3ϕ x 8 mm, T Tapping
155	71233016	Screw (BID), 3ϕ x 16 mm, Tapping
156	71233020	Screw (BID), 3ϕ x 20 mm, Tapping
157	22707400	Screw (WRUM), 3.1ϕ x 13 mm
158	22707401	Screw (WRUM), 3.1ϕ x 20 mm
159	22707003	Screw (TRS), 4ϕ x 8 mm
160	22703117	E Washer, 2ϕ
161	22703118	E Washer, 3ϕ
162	74050040	E Washer, 4ϕ
TRANSISTOR AND DIODES		
TR1		Transistor, 2SC1173-Y
D1		Diode, 1S1555V
BR	22115485	Rectifier, WL02M
DZ		Diode, 02Z18A
MOTOR P.C. BOARD SECTION		
Q01, 02, 03	22114316	Transistor, 2SA733-P
Q04, 05, 06	22114729	Transistor, 2SD471-K
Q07, 08	22114589	Transistor, 2SC945-P
TH01	22115519	Thermistor, SDT-100
ZD01	22115518	Diode, RD5.1E
D01, 02, 03	22115340	Diode, 1S953
Q09	22114468	Transistor, 2SA798
ELECTRICAL PARTS		
T1	22223240	Transformer, Power (America)
	22223241	Transformer, Power (Canada)
P1	22113437	Lamp, Neon
F1	22144390	Fuse, 0.5A/125V
S1, 2	22146144	Switch, Micro, Power/Speed Select
	22164772	Cord, PIN Plug (America)
	22164761	Cord, PIN Plug (Canada)
	22176572	Cord, Power
MOTOR P.C. BOARD SECTION		
L01	22215103	Coil
CAPACITORS **K ±10%, M ±20%, P –0 +100%, Z –20 +80%**		
C1	22340073	Ceramic, 0.01mfd, Z, 160V (America)
	22340103	Ceramic, 0.01mfd, P, 125V (Canada)
C3	22447100	Electrolytic, 10mfd, 35V

Symbol No.	Part No.	Description
C4	22440300	Electrolytic, 470mfd, 35V
MOTOR P.C. BOARD SECTION		
C01, 02, 03	22342473	Ceramic, 0.047mfd, Z, 50V
C04, 05, 06	22446100	Electrolytic, 10mfd, 25V
C07	22372103	Mylar, 0.01mfd, K, 50V
C08	22343222	Ceramic, 0.0022mfd, M, 50V
C09	22446479	Electrolytic, 4.7mfd, 25V
C10	22447220	Electrolytic, 22mfd, 35V
C11	22446479	Electrolytic, 4.7mfd, 25V
C14, 15	22448229	Electrolytic, 2.2mfd, 50V
C17	22446479	Electrolytic, 4.7mfd, 25V
RESISTORS **All resistors are 1/4W, ±5% carbon film unless otherwise noted. K ±10%, G ±2%**		
R1	22563153	15K ohm, D, 1/2W, Carbon Composition
R2	22545122	1.2K ohm
MOTOR P.C. BOARD SECTION		
R01, 02, 03	22555471	470 ohm
R04, 05, 06	22555471	470 ohm
R10	22555229	2.2 ohm
R11, 12	22555823	82K ohm
R13	22555121	120 ohm
R14	22555391	390 ohm
R15	22555473	47K ohm
R17	22555182	1.8K ohm
R18	22555152	1.5K ohm
R19	22555392	3.9K ohm
R20	22550151	750 ohm, G
R21	22555272	2.7K ohm
R22	22555273	27K ohm
R23	22555272	2.7K ohm
R24	22555104	100K ohm } 110K ohm
	22555103	10K ohm }
R25	22555562	5.6K ohm
R26	22555272	2.7K ohm
R27	22555821	820 ohm } 920 ohm
	22555101	100 ohm }
R28	22555392	3.9K ohm } 5.1K ohm
	22555122	1.2K ohm }
R29	22555562	5.6K ohm
R30	22555472	4.7K ohm
R31	22555155	1.5M ohm

Symbol No.	Part No.	Description
		VARIABLE RESISTORS
VR1	22622406	2K ohm, B
		MOTOR P.C. BOARD
VR33, 45	22658318	4.7K ohm, Semi-fixed
		ACCESSORIES
	22902158	Owner's Manual
	22902159	Owner's Manual (Canada)
	20971046	Adaptor, 45 r.p.m.
	22950799	Label, Caution

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